

The invention relates to a signal intended to be transmitted towards a plurality of receivers, of the type comprising at least two source signals and consisting of a plurality of independently modulated substantially orthogonal carrier frequencies distributed over a predetermined frequency band. According to the invention, said frequency band [(12)] is divided into at least two frequency sub-bands [(13₁ - 13₄)] each comprising a set of said substantially orthogonal carrier frequencies [(11)], and to each of said sub-bands is allocated one of said source signals, so that a receiver may retrieve from the transmitted signal, by filtration, at least one of said sub-bands and perform demodulation processing only on the carrier frequencies contained in the retrieved sub-bands. The invention also relates to a transmission process as well as to a receiver of such signal.